



## Manufacturing 1999 and mid-2000

### *Appendix: Comparing Respondents to the Computer Network Use Supplement to the Manufacturing Population –*

Respondents to the 1999 Annual Survey of Manufacturers (ASM) Computer Network Use Supplement (CNUS) comprise a subgroup within the population of all manufacturers in the U.S. in 1999. This appendix compares the size of this subgroup to the size of the entire manufacturing population in 1999 using several measures of size. In other words, we ask, "How large a part of the manufacturing population were the subgroup of plants that responded to the CNUS? Were they one-fourth of the population, one-half, or what?"

The appendix tables show the values of employment, salaries and wages, cost of materials, online purchases, value of shipments, and online shipments for all manufacturing plants in the U.S. (Appendix Table A) and for the plants responding to the CNUS (Appendix Table B). They also show the number of U.S. manufacturing plants in 1999 and the number of CNUS respondents. Appendix Table C shows the percentage of the U.S. totals accounted for by the respondents. Appendix Tables D and E show the number of U.S. manufacturing plants and the number of CNUS respondents broken down by employment size class, and by state. Note that these are not percentages represented by respondents. There are no weights applied to the respondent data shown in this appendix - the values are counts of responding plants and sums of unweighted reported values.

We see that while the CNUS respondents were about 11 percent of all manufacturing plants in the U.S., employment at plants that responded to the CNUS made up about 48 percent of all manufacturing employment. Salaries and wages at responding plants were 52 percent of all salaries and wages in

manufacturing plants. The respondents also accounted for roughly 62 percent of all cost of materials (purchases) and value of shipments. The CNUS respondents accounted for 96 percent of online manufacturing cost of materials and 81 percent of online manufacturing shipments.

Overall the portion of manufacturing economic activity accounted for by the CNUS respondents whose data are discussed in this release is quite large. It is not, however, all manufacturing activity. Inferences to the full population of manufacturing plants cannot be drawn from these data because of the lack of evidence on which to base imputation of processes responses. Our small study on nonrespondents' online shipments (157 plants) provided evidence that there may be systematic differences between respondents and nonrespondents. More study is needed before inferences to the full population for e-business processes can be constructed.



The Census Bureau is committed to providing the business community and policymakers with more relevant and useful economic statistics. This report is an important first step in achieving that goal. We thank all the businesses that participated in these surveys. Their cooperation and continued participation is vital to the future success of the economic statistics programs.

**Appendix Table A: Population Estimates for Key Data Items for Manufacturing: 1999**

NAICS Code	Description	Number of Manufacturing Plants <sup>1</sup>	Total Employment (thousands) <sup>2</sup>	Salary and Wages (millions) <sup>2</sup>	Cost of Materials		Value of Shipments	
					Total (millions) <sup>2</sup>	Purchased Online (millions) <sup>3</sup>	Total (millions) <sup>2</sup>	E-commerce (millions) <sup>3</sup>
	<b>Total Manufacturing</b>	<b>360,244</b>	<b>16,711</b>	<b>600,090</b>	<b>2,079,523</b>	<b>230,914</b>	<b>4,038,109</b>	<b>485,283</b>
311	Food products	26,734	1,488	41,211	251,736	11,163	429,053	37,548
312	Beverage and tobacco	2,789	167	6,677	38,940	3,365	107,437	8,998
313	Textile mills	4,587	357	9,466	31,895	1,576	54,854	4,819
314	Textile product mills	7,152	240	5,440	18,548	912	32,642	4,896
315	Apparel	16,721	576	11,022	32,403	1,358	62,798	11,376
316	Leather and allied products	1,807	74	1,760	5,145	105	9,673	1,775
321	Wood products	17,473	589	15,954	59,516	1,954	97,583	3,373
322	Paper	5,883	560	22,789	82,836	3,596	157,491	13,412
323	Printing and related support activities	40,671	838	27,369	40,029	1,764	102,404	6,422
324	Petroleum and coal products	2,226	104	5,625	127,147	11,595	168,096	6,530
325	Chemicals	13,534	881	42,101	192,190	17,608	419,674	42,891
326	Plastics and rubber products	16,646	1,069	32,638	81,488	4,121	172,397	22,876
327	Nonmetallic mineral products	16,541	526	17,948	41,191	1,865	97,498	(S)
331	Primary metals	5,900	586	23,726	91,149	4,683	158,102	12,940
332	Fabricated metal products	62,242	1,799	59,915	114,654	4,660	256,899	28,109
333	Machinery	30,177	1,401	53,802	137,903	16,828	277,117	39,942
334	Computer and electronic products	17,279	1,621	75,130	193,022	23,182	458,485	46,876
335	Electrical equipment, appliances, and components	7,104	598	20,253	59,137	6,012	119,792	23,671
336	Transportation equipment	13,042	1,876	86,806	405,442	111,732	675,122	140,259
337	Furniture and related products	20,266	628	16,880	32,848	1,265	72,752	6,229
339	Miscellaneous	31,470	732	23,578	42,304	1,569	108,238	10,584

Note: Detail may not add to total due to independent rounding.

(S) Data do not meet publication standards because of high sampling variability or poor response quality. Unpublished estimates derived from table by subtraction should be used with caution and not be attributed to the U.S. Census Bureau.

<sup>1</sup> County Business Patterns

<sup>2</sup> Annual Survey of Manufactures

<sup>3</sup> Computer Network Use Supplement

Source: U.S. Census Bureau, 1999 Annual Survey of Manufactures: March 2002

**Appendix Table B: Unweighted Data for Manufacturing Plants Responding to the Computer Network Use Supplement**

NAICS Code	Description	Number of Respondents	Total Employment (thousands)	Salary and Wages (millions)	Cost of Materials		Value of Shipments	
					Total (millions)	Purchased Online (millions)	Total (millions)	E-commerce (millions)
	<b>Total Manufacturing</b>	<b>38,985</b>	<b>8,034</b>	<b>314,367</b>	<b>1,279,132</b>	<b>197,762</b>	<b>2,384,547</b>	<b>393,780</b>
311	Food products	3,430	806	24,084	163,634	8,847	281,037	31,698
312	Beverage and tobacco	410	90	3,945	24,337	2,365	60,905	8,656
313	Textile mills	766	204	5,555	20,207	1,444	33,958	4,235
314	Textile product mills	492	91	2,327	10,563	860	17,415	4,406
315	Apparel	905	171	3,784	13,988	990	26,370	8,475
316	Leather and allied products	179	34	919	3,100	97	5,922	1,715
321	Wood products	2,142	273	8,274	33,899	1,369	54,717	2,873
322	Paper	1,627	331	14,432	55,278	2,903	107,445	12,227
323	Printing and related support activities	2,129	260	9,295	16,406	820	40,300	3,784
324	Petroleum and coal products	577	66	3,759	95,560	11,184	124,737	6,487
325	Chemicals	2,639	484	24,899	127,687	12,999	267,601	36,275
326	Plastics and rubber products	2,719	506	16,705	44,993	2,893	95,777	17,667
327	Nonmetallic mineral products	2,099	240	9,013	20,046	1,237	51,468	4,685
331	Primary metals	1,266	370	15,978	66,430	4,431	111,862	11,746
332	Fabricated metal products	5,762	703	25,179	60,834	3,199	127,749	18,056
333	Machinery	3,827	713	29,018	84,813	15,002	167,208	32,930
334	Computer and electronic products	1,924	683	32,082	79,161	16,940	179,043	30,179
335	Electrical equipment, appliances, and components	1,113	338	11,963	36,982	4,938	74,793	17,530
336	Transportation equipment	1,778	1,091	54,323	282,913	103,005	461,745	125,922
337	Furniture and related products	1,351	276	8,066	16,385	1,103	37,079	5,448
339	Miscellaneous	1,850	304	10,767	21,918	1,137	57,415	8,786

Note: Detail may not add to total due to independent rounding.

Source: U.S. Census Bureau, 1999 Annual Survey of Manufactures: March 2002

## Appendix Table C: Unweighted Data for Responding Plants as Percent of Population Estimates for Manufacturing: 1999

[Percent of published Annual Survey of Manufactures population total accounted for by the respondents to the Computer Network Use Supplement]

NAICS Code	Description	Number of Plants	Total Employment	Salary and Wages	Cost of Materials		Value of Shipments	
					Total	Purchased Online	Total	E-commerce
	<b>Total</b>	<b>10.8</b>	<b>48.1</b>	<b>52.4</b>	<b>61.5</b>	<b>95.8</b>	<b>59.1</b>	<b>81.1</b>
311	Food products	12.8	54.2	58.4	65.0	91.4	65.5	84.4
312	Beverage and tobacco	14.7	54.1	59.1	62.5	80.4	56.7	96.2
313	Textile mills	16.7	57.1	58.7	63.4	95.1	61.9	87.9
314	Textile product mills	6.9	38.0	42.8	56.9	95.9	53.4	90.0
315	Apparel	5.4	29.6	34.3	43.2	89.8	42.0	74.5
316	Leather and allied products	9.9	46.2	52.2	60.3	92.4	61.2	96.7
321	Wood products	12.3	46.4	51.9	57.0	84.5	56.1	85.2
322	Paper	27.7	59.1	63.3	66.7	92.4	68.2	91.2
323	Printing and related support activities	5.2	31.0	34.0	41.0	61.2	39.4	59.0
324	Petroleum and coal products	25.9	63.9	66.8	75.2	99.3	74.2	99.3
325	Chemicals	19.5	55.0	59.1	66.4	96.1	63.8	84.6
326	Plastics and rubber products	16.3	47.3	51.2	55.2	86.7	55.6	77.2
327	Nonmetallic mineral products	12.7	45.6	50.2	48.7	85.8	52.8	(S)
331	Primary metals	21.5	63.2	67.3	72.9	97.2	70.8	90.8
332	Fabricated metal products	9.3	39.1	42.0	53.1	81.3	49.7	64.2
333	Machinery	12.7	50.9	53.9	61.5	95.4	60.3	82.4
334	Computer and electronic products	11.1	42.1	42.7	41.0	93.2	39.1	64.4
335	Electrical equipment, appliances, and components	15.7	56.4	59.1	62.5	92.6	62.4	74.1
336	Transportation equipment	13.6	58.2	62.6	69.8	99.0	68.4	89.8
337	Furniture and related products	6.7	43.9	47.8	49.9	87.2	51.0	87.5
339	Miscellaneous	5.9	41.5	45.7	51.8	76.5	53.0	83.0

(S) Data do not meet publication standards because of high sampling variability or poor response quality. Unpublished estimates derived from table by subtraction should be used with caution and not be attributed to the U.S. Census Bureau.

Source: U.S. Census Bureau, 1999 Annual Survey of Manufactures: March 2002

**Appendix Table D: Comparison of Establishment Counts from County Business Patterns and the Computer Network Use Supplement, by Employment Size: 1999**

Employment Size Class	Population Number of Manufacturing Plants <sup>1</sup>	Responding Manufacturing Plants	
		Number	Percent of All Plants
<b>Total</b>	<b>360,244</b>	<b>38,985</b>	<b>10.8</b>
Plants with-			
1-4 employees	123,803	565	0.5
5-9 employees	61,389	1,243	2.0
10-19 employees	55,642	3,018	5.4
20-49 employees	56,458	7,202	12.8
50-99 employees	27,990	7,438	26.6
100-249 employees	22,359	10,435	46.7
250-499 employees	7,867	5,089	64.7
500-999 employees	3,261	2,455	75.3
1,000-2,499 employees	1,169	865	74.0
2,500 employees or more	306	197	64.4
Employment unknown	(NA)	478	(NA)

(NA) Not applicable.

<sup>1</sup> County Business Patterns

Source: U.S. Census Bureau, 1999 Annual Survey of Manufactures: 2002

**Appendix Table E: Comparison of Counts from County Business Patterns  
and the Computer Network Use Supplement, by State: 1999**

State	Population Number of Manufacturing Plants <sup>1</sup>	Responding Manufacturing Plants	
		Number	Percent of All Plants
<b>United States</b>	<b>360,244</b>	<b>38,985</b>	<b>10.8</b>
Alabama	5,336	745	14.0
Alaska	505	49	9.7
Arizona	4,903	372	7.6
Arkansas	3,294	508	15.4
California	49,330	3,998	8.1
Colorado	5,425	373	6.9
Connecticut	5,657	564	10.0
District of Columbia	186	81	43.5
Delaware	696	10	1.4
Florida	15,601	951	6.1
Georgia	8,936	1,202	13.5
Hawaii	919	44	4.8
Idaho	1,649	141	8.6
Illinois	17,653	2,255	12.8
Indiana	9,320	1,400	15.0
Iowa	3,828	580	15.2
Kansas	3,295	424	12.9
Kentucky	4,291	736	17.2
Louisiana	3,488	422	12.1
Maine	1,917	154	8.0
Maryland	3,972	379	9.5
Massachusetts	9,329	885	9.5
Michigan	15,790	1,918	12.1
Minnesota	8,089	1,115	13.8
Mississippi	2,885	435	15.1
Missouri	7,465	873	11.7
Montana	1,207	57	4.7
Nebraska	1,955	260	13.3
Nevada	1,701	126	7.4
New Hampshire	2,271	230	10.1
New Jersey	11,448	1,018	8.9
New Mexico	1,577	86	5.5
New York	23,071	1,602	6.9
North Carolina	11,137	1,667	15.0
North Dakota	717	63	8.8
Ohio	17,930	2,428	13.5
Oklahoma	4,017	419	10.4
Oregon	5,694	566	9.9
Pennsylvania	17,038	2,148	12.6
Rhode Island	2,376	196	8.2
South Carolina	4,520	709	15.7
South Dakota	897	103	11.5
Tennessee	7,248	1,004	13.9
Texas	21,724	2,161	9.9
Utah	2,948	260	8.8
Vermont	1,245	106	8.5
Virginia	5,949	706	11.9
Washington	7,741	705	9.1
West Virginia	1,510	184	12.2
Wisconsin	10,005	1,471	14.7
Wyoming	559	36	6.4

(NA) Not applicable.

<sup>1</sup> County Business Patterns